RANGE CONDITION REPORT

(National Resource Lands)

UTAH

U. S. Department of the Interior
Bureau of Land Management

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RANGE CONDITION REPORT
on
National Resource Lands
in
UTAH

I. HISTORICAL BACKGROUND:

Grazing of domestic livestock on national resource lands (NRL) in Utah began rather inconspicuously about 1850[1]. Early accounts relate that small numbers of sheep and cattle were owned by pioneer settlers throughout the State. These herds were allowed to graze unrestricted but received close attention since they were vital to the welfare of these early residents.

Domestic herds increased dramatically and by the turn of the century, range deterioration was beginning. The problem was rapidly accelerated with the advent of large, transient sheep herds that ranged over much of the State and competed with local livestock operations and native big game wildlife species.

Much of the early grazing history is typical of other western states; however, one unique situation developed early and has persisted even to the present. Early Utah settlers were predominatly Mormon (members of the Church of Jesus Christ of Latter-day Saints) and were strong in their belief of banding together. This situation promoted close unity and strong ties between family members as the family unit was the basis for their social order. As a result, grazing permits have remained in certain families for many years. These same parcels of private land and associated grazing permits have been divided many times among family members and their descendants. Consequently, both the base properties and the size of herds permitted on national resource lands

were reduced in size. Today it is not uncommon for several members of one family to have small permits to graze livestock in a single allotment. Many of the original operations have been divided so many times that a sound, economical operation no longer exists. This situation created many problems for the present-day grazing program, since small land units and numerous operations are more difficult to administer.

Livestock numbers continued to build in Utah after passage of the Taylor Grazing Act. Peak numbers of grazing animals occurred in the 1940s when nearly 200,000 cattle and 2 million sheep used national resource lands[2]. Throughout this period of history, numbers of livestock using the public lands were excessive, and unrestricted grazing caused serious range deterioration.

Livestock grazing was not the only factor that contributed to unsatisfactory range conditions. Around the turn of the century, most of western and southern Utah had large numbers of feral horses. These populations originated primarily from animals that escaped from or were turned loose by local residents.

Even with the inception of the Taylor Grazing Act and the beginning of a range management program, excessive use continued along with a downward trend in range conditions. This set the stage for the Bureau's adjudication program which began in the mid-50s and took almost 10 years to complete due to the complex problems involved. Determining qualifications for grazing privileges and reductions in numbers of animals to grazing capacity were completed first. Many appeals and court proceedings resulted requiring long periods of time to resolve. However, the actions taken resulted in the reduction of about 50,000 cattle and 1½ million

sheep that grazed on national resource lands. Appendix No. 1 illustrates the decline of livestock numbers from 1940 through the adjudication years and to the present date.

In addition to reductions in livestock numbers, the seasons when livestock were permitted to graze required immediate attention. Grazing on most ranges was done on virtually a year-long basis. Frail desert ranges were heavily grazed into the critical spring season. Higher-elevation ranges were being used as a holding ground until the National Forest ranges were opened for livestock use. This resulted in the loss of desirable forage plants and allowed the invasion of such undesirable plants as sagebrush and juniper. In many areas, serious competition for forage also existed between livestock and big game species.

During the adjudication period, reservations of forage for wildlife big game species were made to comply with grazing regulations and insure adequate forage was available to support reasonable numbers of wildlife. This was appropriate since the national resource lands provide most of the crucial habitats for wintering deer and considerable important habitats for elk and antelope. Wildlife forage reservations were taken from the total forage available before making allocations to livestock. This caused considerable controversy with range users and, in some cases, the need for wildlife allocations was never identified. Adjustments for wildlife are still being made as wildlife needs are properly identified.

At the time of adjudication and for a period after, the Bureau allocated individual allotments. The objective was to separate range

users as an incentive to improve forage resource. Allotments also provided the Bureau with greater ability to supervise grazing use. Many individual and community allotments were established by agreement or decision. This practice produced some benefits but also compounded management problems in many areas today. Forage allocations were inaccurately determined for some allotments requiring readjustments which are still being made to this day. Because most allotments have different physical characterisitics it was difficult to equitably establish allotments on the basis of range development potential. Consequently some allotments received more opportunities for range development than others. Numerous allotments were established which today cannot be improved through intensive grazing management or range rehabilitation practices because the allotments are too small.

With adjudication completed and many new regulations and management techniques in operation, the Bureau began an extensive rangeland rehabilitation program. Range conditions were restored on certain areas by such vegetation manipulation practices as chaining and seeding juniper stands. To date, more than 385,000 acres have been successfully rehabilitated and on some depleted ranges, livestock forage was increased ten times above former production. But equally important, these practices improved watershed conditions and provided additional forage for big game and other wildlife species. Both the Utah Division of Wildlife Resources and grazing licensees and permitees have cooperated with BLM to complete land treatment practices. Although successful, the program was not conducted on a scale large enough to contribute significantly to state wide range restoration.

In the mid 1960s, BLM initiated a Bureau-wide program of developing allotment management plans (AMPs) on NRL to improve range conditions and protect other resource values associated with vegetation management. The AMP provided for construction of range improvements necessary to implement a rest-rotation system of controlling livestock grazing[3]. The first plans were successful and subsequently a major effort was directed toward completing additional AMPs. Since initiation of the program, two situations have developed; First, sufficient funds were not available to fully implement all plans within a reasonable time, and second, funding allocations for the range management program were continually reduced and sufficient manpower was not available to supervise all existing AMPs to assure adherence to quality standards. Consequently a large number of AMPs still need to be implemented and a significant number need revision to become fully operable.

The protection and management of wild and free roaming horses and burros became another important activity in Utah's range management program. Prior to the passage of PL 92-195 in 1971, wild horse and burro populations were controlled by range users and "mustangers". No forage allowances were made for the animals during the adjudication period because it was believed all animals were privately owned and would eventually be removed from the range.

Since 1970, there has been a sharp rise in numbers of requests from grazing licensees to change from sheep to cattle (Appendix No. 2). This is primarily due to livestock economics, increased sheep herding costs, and predator problems. Before approving the change, a range analysis must be completed to determine the proper forage conversion ratio. This is necessary to insure that a proper grazing capacity is established for

cattle. On some lower desert ranges it is not economically feasible to convert to cattle because of the high conversion ratios involved (as high as 13 sheep to 1 cow). Grazing cattle on former sheep allotments also requires additional range improvements, mainly water developments and fencing, which cause conflict in some cases with other resource uses and values (wild horses, recreation, open space, etc.).

II. PRESENT SITUATION

A. Statistics

1. Livestock - In 1973, [4] a total of 2010 regular livestock operators were authorized to graze nearly 642,000 cattle, sheep, and horses on NRL in Utah. Appendix No. 3 shows the decline of livestock operator numbers since 1940.

A summary of grazing statistics for the 1973 grazing year is shown on Table No. 1.

Table No. 1

	Regular	Free Use	Crossing	Total Authorizations
No. Licenses & Permits	2,010	2	113	2,125

Type	Cattle		Horses		Sheep	
Authorizations 1/	No's.	AUM's	No's.	AUM's	No's.	AUM's
Regular	140,487	607,584	553	2,744	501,453	401,009
Crossing	6,937	807	0	0	129,320	6,725
Free Use	4	24	3	15	0	0
Totals	147,428	608,420	556	2,759	630,773	407,734

Total Livestock No's.	778,757
Total Active AUM's Authorized	1,011,342
Total Authorized Reg. Nonuse	387,078

1/ Does not include exchange of use licenses.

2. Wild horses and burros - The total number of wild horses and burros using national resource lands in Utah is shown on Table No. 2. Population numbers were determined by inventories conducted in 1973 and 1974. Most of Utah's wild horses are located in isolated mountain ranges of the West Desert. To date, no forage allocations have been made for wild horses or burros. The population increase for wild horses is estimated to be fifteen to twenty percent annually. Competition with livestock is increasing and some wild horse ranges are beginning to indicate a downward trend; however, studies have not been completed to substantiate this trend.

TABLE NO. 2

Horses	Burros	AUMs Required	AUMs Reserved
1400	44	17,300	0

3. Wildlife - Deer, elk, antelope and bighorn sheep are the major big game species utilizing approximately 16,600,000 acres of habitat on NRL in Utah. Deer are commonly found on most ranges throughout the State. Populations have declined since reaching a peak in 1960. The Utah Board of Big Game Control prescribed a "buck only" harvest in most areas of the State for the 1974 season.

Present antelope populations are found on ranges throughout the State. Elk are on higher-elevation ranges adjacent to the forest system and on isolated mountain ranges. Bighorn sheep populations are located in southeastern Utah. Also, the only wild, free-roaming buffalo herd on national resource lands in the contiguous 48 states is found on the Henry Mountains. Forage reservations have been made for big game on

most ranges grazed by livestock, but reservations are still needed in a few areas. The species and numbers of big game animals that use national resource lands are shown on Table No. 3.

TABLE NO. 3

Species	1960 Number	1974 Number	AUMs Reserved
Mule Deer	330,000	176,000	248,000
Elk	750	1,100	5,800
Antelope	1,000	2,700	5,400
Bighorn Sheep	150	400	5,000
Buffalo	50	120	1,300
	331,950	180,320	265,500

B. Management Situation

The majority of NRL in Utah form a well-blocked land pattern with only a small percentage of intermingled private and State lands. Only Box Elder and Washington Counties have significantly complicated land patterns. The general location of NRL in Utah is shown on Appendix No. 4.

Unfenced private and State-owned rangelands are grazed in common with national resource lands. Range users are given credit for grazing on privately-controlled lands by an exchange of use or percentage license. Within the boundaries of the 8 Utah BLM Districts, the State of Utah owns 3,466,000 acres of which a large percentage are presently grazed in common with NRL. Utah has State indemnity lieu selection entitlement to 225,000 acres, which could have an impact on the range management program on NRL in the future.

Data are not available for privately-owned lands grazed in common with national resource land. For most livestock operations, use of national resource land for grazing is necessary to complete a year-round operation because base properties cannot support livestock during some

part of the year. In many cases, operators would have no place to go with their livestock if significant adjustments in establishing grazing seasons were made. Some NRL in Utah are grazed virtually all seasons of the year. Lower elevation ranges are primarily grazed by sheep during the winter and early spring before using National Forest or privately-controlled lands at higher elevations. However, this situation is changing since many sheep operations are converting to cattle. NRL adjacent to the National Forest system are grazed by both cattle and sheep in the spring and fall. Other NRL are grazed by both classes of livestock during any of the four seasons of the year, including year-round grazing.

In addition to NRL, BLM is responsible for certain phases of grazing administration on lands administered by the National Park Service. BLM still administers grazing on the Glen Canyon National Recreation area (1,250,000 acres) and continues to issue grazing authorizations and collect grazing fees on the extension areas of Capital Reef (244,000) acres) and Canyonlands National Parks. (337,000 acres)

Wildlife habitat is of major importance on NRL. Over 16.6 million acres have been identified as important to big game and 17.5 million acres are important for small game.

Other important land uses include energy development, recreation, and woodland products. Energy-related activities predominate on national resource lands. In 1974 BLM issued 15, 152 leases for oil and gas exploration on 14,420,000 acres of National Forest and national resource land. Also, 195 leases have been issued on 267,000 acres for coal and

two leases on 10,000 acres for oil shale. Other demands for energy resources include geothermal steam, and bituminous sands. Important locatable minerals include uranium, phosphorous, limestone, and potash. Administration of energy and other resource activities has demanded more manpower in recent years and has adversely impacted BLM's range management program in Utah.

C. Status of Grazing Management

At the present time, Utah has 167 Allotment Management Plans in operation. These plans have established intensive management practices on 5,170,000 acres of land, but some plans are not fully operational because funds have not been available to complete needed range improvements. While these partially-implemented plans cannot fully meet planned objectives, they do provide limited management for improved range conditions.

Another 81 plans, covering 4,133,000 acres, have been written but cannot be implemented for lack of supportive measures (fences, water developments, etc.) and manpower for proper supervision and maintenance (studies, evaluations, revisions, etc.). An estimated 12,077,000 acres have also been identified by the Bureau's planning system as needing AMPs. Thus, a total of 16,210,00 acres is under interim management. As needed supportive measures are completed, and plans accomplish desired objectives, then supervision and maintenance requirements can be relaxed and additional plans developed. Until then, management on these areas will be limited to supervising authorized grazing use until the aforementioned supportive measures become available. This form of management

Table No. 4

STATUS OF GRAZING MANAGEMENT

	Intensive Management	Interim Management	Custodial Management	Total
No. Existing Plans	167			
No. Plans Required	808			
Acres Existing	5,170,000	16,210,000	1,370,000	22,750,000 1/
Acres Optimum	21,816,000		934,000	22,750,000
AUMs Authorized - Present 2/	455,000	870,400	73,000	1,398,400
AUMs Authorized - Optiumu	1,927,000		73,000	2,000,000

1/ Included in total acres are an estimated 3,000,000 acres of land unsuitable for livestock grazing. Because most unsuitable acreages lie within allotment boundaries, this acreage was included in the average acreage for the total number of needed AMPs.

2/ Figures were rounded and include only authorized regular active use and regular non use.

will not significantly improve range conditions or forage production, nor will it assist in producing any other resource benefits.

The remaining 1,370,000 acres are presently under custodial management. These are generally small or isolated, fragmented lands with no significantly important resource values. Intensive management programs would be difficult or impractical to apply. Management is limited to issuance of licenses or permits for the grazing capacity involved. The planning system will identify opportunities to consolidate some of these areas into larger allotments on which AMPs can be developed.

A summary of the present status of grazing management is shown in table No. 4.

D. Resource Condition

1. Range Conditions

Table No. 5 summarizes range conditions that existed on 19.7 million acres of NRL studied in 1965[5]. Subsequent studies were discontinued when the AMP program was initiated. It is believed overall conditions have improved during these past 10 years, but this belief cannot be verified since studies do not exist on all allotments to determine present range conditions. Improved areas include some interim management ranges, allotments with implemented management plans, and treated land areas.

Range Conditions - 1965

Table No. 5

	Acres	Percent
Excellent	-	-
Good	985,000	5
Fair	10,047,000	51
Poor	7,092,000	36
Bad	1,576,000	8
Total	19,700,000	100

There are 11.7 million total acres of pinyon-juniper rangeland in Utah[6]. An estimated 6.8 million acres of pinyon-juniper are on NRL. Most pinyon-juniper ranges are in poor condition with a downward trend, except for 197,000 acres rehabilitated since 1964. Intensive livestock management (i. e. rest-rotation, deferred grazing, etc.) will not restore these pinyon-juniper ranges to satisfactory condition because densities of desirable forage species are not adequate to withstand the severe competition of pinyon-juniper. These areas will continue to expand where adjacent poor condition ranges exist and will remain virtually non-productive until rehabilitated by land treatment practices.

Some poor range conditions can still be attributed to overgrazing. Utah BLM districts are identifying areas where over-obligation of the forage resource exists and are making adjustments in licensed use on a priority basis. However, only a small percentage of the area falls within this category. Use adjustments will be necessary but some could be averted by development of AMPs where problems are attributed to lack of water or livestock distribution.

Improper seasons of grazing use also contribute to the poor range conditions. These are primarily winter range areas where continuous grazing use extends into the spring grazing season. AMPs could solve this problem, except that adjustments will be necessary because all AMPs cannot be developed within a reasonable time to prevent further deterioration to range conditions.

Continuous grazing on a large percentage of the sixteen million acres of NRLs under interim management accounts for the most significant influence on range and wildlife habitat conditions. Desirable vegetation, including grasses and shrubs, has no opportunity to rest and meet physiological plant requirements for reproduction and litter accumulation for soil formation and fertility. These requirements are essential for improving the vegetation resource and can only be accomplished through controlled livestock grazing.

The lack of livestock water is also a contributor to poor range conditions. Many areas do not have permanent water to allow use of existing forage during the entire grazing season. Consequently, grazing use is increased on areas around permanent water.

Many areas with permanent water are heavily used with no opportunity for resting the surrounding range. An estimated 3870 water development projects are needed to properly utilize ranges on national resource lands.

Grazing on areas with fragile soils and low precipitation is a problem in certain areas, particularly in southeastern Utah. Many ranges could be classified as frail lands since they do not easily

recover from adverse impacts of livestock grazing and require careful management. In most cases present managment practices are inadequate since AMPs have not been developed for these areas. These areas are being identified and classified as unsuitable for livestock grazing.

Certain administrative problems are also associated with poor range conditions. A large number of allotments are simply too small for improvement through management practices. Stock drives and trailing practices are contributing to small, isolated problem areas. Trespass is also a problem which has not been completely abated due to inadequate manpower.

2. Erosion Conditions

Watershed studies have been completed on 14,559,542 acres of NRL in Utah, (73.8% of the 19,729,000 productive acres). There are approximately 22,750,000 acres of NRL in the State of which roughly 3,021,000 acres are barren. A more accurate estimate of the barren acreage will be available upon completion of a BLM watershed study program now in progress. In the interim, data presented has been taken from old range survey, condition and trend studies for this acreage estimate.

Of the 14.6 million acres sampled on NRL in Utah, more than 75% falls within the slight and moderate Erosion Condition Class (ECCs), 17% are within the critical and severe ECCs and only 5.4% are stable acres.

A large percentage of the major vegetative types were sampled including sagebrush-grass, desert shrub, blackbrush and pinyon-juniper. Elevations varied from 3,000 feet to 10,000 feet and the topography and soils were representative throughout the State. A summary of erosion conditions are shown on table No. 6.

Table No. 6

Erosion Condition

	(0-19) Stable	(20-39) Slight	(40-59) Moderate	(60-79) Critical	(80-100) Severe	Total
Existing Acres	1,065,366	8,187,535	7,023,524	3,314,472	138,103	19,729,000
Percent	5	41	36	17	1	100

3. Wildlife Habitat Condition

Less than one-half of Utah's big game ranges on national resource lands are in satisfactory condition. Mountain foothill browse ranges are critical to the survival of big game herds, especially deer, and most of these are in decadent or poor condition because of excessive joint use by domestic livestock and deer over the past forty years. These foothill ranges are commonly managed as spring-fall cattle ranges with inadequate consideration given to preservation of adequate browse forage for deer during the winter. Cattle on such ranges will begin using browse forage as the grass dries out in late spring and may also use browse heavily in late fall, depending on the species available. These same ranges provide the only available forage for deer when deep snows cover the higher mountains forcing them down to the foothills in search of food. Such joint use over a long period of time results in decadent plants which are unable to retain normal vigor. As vigor lessens, reproduction also greatly reduces, with the end result that many plants die without being replaced by new plants.

Antelope ranges throughout Utah are inhabited by antelope year-round with either sheep or cattle using the same ranges in winter. Domestic sheep rely largely on browse species on desert ranges in

winter, which is in direct competition with antelope during that season. During spring and summer, antelope rely largely on grass and forbs with forbs being especially critical to fawns when they are weaned. Because of excessive use, or improper season of use of these ranges by sheep over a long period of time, many of the forbs highly important to antelope survival and propagation have almost been eliminated from desert ranges.

Deer populations over the State have been substantially reduced during the past ten years because it was recognized that browse forage was in poor condition over broad areas. However, in many instances livestock continued to graze these areas which prevented range recovery even though deer numbers were decreased. Domestic livestock numbers were also decreased on some of these ranges, but winter grazing on critical deer winter ranges still prevented recovery of browse vigor. The result on many big game ranges was a gradual conversion of these ranges from browse to grass. On many foothill ranges, excessive grazing by both livestock and big game has removed heraceous and shrubby vegetation to the point where pinyon and juniper trees have been gradually increasing over vast areas of the State. Once established, these trees, with their shallow dispersed root system which quickly absorbs the small amounts of precipitation characteristic of these semi-desert ranges, make it difficult for shrubby vegetation to grow. After large stands of pinyon and juniper become entrenched, it is virtually impossible to introduce useful quantities of herbaceous and shrubby vegetation without fist removing the trees. In recent years State wildlife management has

been directed toward reducing deer numbers in order to save deteriorating ranges. The Division of Wildlife Resources contends that deer numbers were reduced disproportionately to reductions in domestic livestock numbers and believes steps must be taken to rehabilitate ranges so that deer numbers may be increased. Big game license sales are critical to financing many of the State's wildlife programs, and revenues have decreased seriously during the past ten years because of declining deer populations. Intensive livestock management alone can only partially accomplish the objective. Many of the vast pinyon-juniper ranges will require complete rehabilitation with continued appropriate management thereafter.

Upland game habitat varies from good to poor, depending on the species under consideration. Sage grouse habitat is in generally poor condition in most areas because the forb and grass understory of their sagebrush habitat has been reduced by excessive livestock grazing. Conversely, chukar habitat is often improved by overgrazing of ranges, which converts plant composition from perennials to annual grasses upon which these birds subsist. Gambel quail live in lower Sonoran desert areas where year-round or summer grazing by cattle has drastically reduced forbs and grasses upon which they rely for seed production and greenery. Livestock grazing on these ranges has been adverse to the habitat of both the Gambel quail and the unique and relatively uncommon desert tortoise. On these blackbrush ranges, reduced livestock grazing in winter and resting of areas from cattle grazing in spring and summer would produce the greatest beneficial effects for wildlife.

The condition of stream and lake habitat for fish and other aquatic animals and waterfowl is also poor due to lack of control of livestock adjacent to the water and continued overuse of the riparian vegetation. Such vegetation is extremely important to a great variety of animals and birds for nesting, feeding, and resting and is more valuable per unit of area than any of the surrounding semi-desert vegetation. Because of heavy livestock use of overhanging bank vegetation and browsing of willows, much streambank cover that would be highly beneficial in sustaining fish populations has been removed. Streams or water impoundments having high potential for fish or waterfowl production must be rested and subsequent livestock utilization carefully controlled if the riparian vegetation is to be maintained in a satisfactory condition. Controlled livestock grazing cannot be expected to be successful in all situations and fencing certain riperian vegetation areas may be the only acceptable alternative. This has only been done on one mile of stream in Utah.

A summary of wildlife habitat conditions are shown in Table No. 7.

Table No. 7

Wildlife Habitat Conditions

	Unsatisfactory	Total
Big Game (acres)	13,300,000 (80%)	16,600,000
Stream Fish (miles)	1,100 (69%)	1,600
Lake Fish (acres)	11,900 (35%)	34,000
Upland Birds & Rabbits (acres)	12,400,000 (70%)	17,600,000

4. Comparison to Non-BLM Ownerships

Range conditions on NRL are generally below that of land-administering agencies and private ownership. The most significant difference is the large acreage of non-BLM ownership lands in good condition. A comparison of range conditions on NRL to non-BLM ownerships is shown on Table No. 8[7].

Table No. 8

COMPARISON BLM - NON BLM OWNERSHIPS

	Private	State Land	Wildlife Resources	Forest Service	BLM
Total acres	13,174,000	4,000,000	245,000	7,972,000	22,750,000
Condition*					
Good (%)	25	10	30	30	5
Fair (%)	45	50	30	40	51
Poor (%)	30	40	40	30	44

* 1972 figures except for BLM. BLM condition classes were adjusted to be comparable with non-BLM ownership.

E. Resource Trends

1. Range

In 1965 range trend studies were completed on 19.7 million acres of NRL in Utah.[5] Table No. 9 shows the trend of range conditions identified at that time.

Table No. 9

1965 Trend Study

	Acres	Percent
Improving	3,940,000	20
Static	11,820,000	60
Declining	3,940,000	20
Total	19,700,000	

It is generally acknowledged that previously-overstocked ranges have improved since use adjustments were completed during the adjudication. Conditions have also improved on 300,000 acres that have been rehabilitated since 1965. The extent to which range conditions have improved on the 19.7 million acres studied in 1965 cannot be determined because trend studies have not been conducted on the same areas since that time. Trend studies are available on 61 AMPs that have concluded at least one complete grazing cycle. See Table No. 10. These results do not represent total accomplishments because most of the plans evaluated are expected to improve range conditions still further.

Table No. 10

Trend on AMPs Having Completed a Full Grazing Cycle

	Acres	Percent
Improving	1,194,228	38
Static	1,865,251	59
Declining	99,553	3
Total	3,150,032	100

2. Erosion Condition

Watershed Phase I studies provide a means of determining trends in erosion conditions. Analysis of present information find erosion condition trends to be mostly static with improving conditions exceeding the rate of declining conditions, as shown on Table No. 11.

Table No. 11

Trend in Erosion Condition (1974)

	Acres	Percent
Improving	5,918,700	30
Static	9,864,500	50
Declining	3,945,800	20
Total	19,729,000	100

3. Wildlife Habitat

Utah's big game ranges on national resource lands are generally in a static to downward trend. Although range livestock numbers have been reduced in Utah, range forage demands for livestock have continued high up to the present time. Over-populations of deer were first recognized in 1930 and by 1942 destructive overgrazing by deer over many areas of the state was recognized. This rapid buildup in deer numbers occurred on ranges already fully or overstocked with livestock. While reductions in both deer and domestic livestock numbers have been made on most ranges, continued use of forage during critical growth seasons or beyond the plants' capacity to recover have prevented recovery of deteriorating ranges.

Associations of plants may be changed by grazing. Cattle are being used as a tool to try to change plant composition from grass to browse on critical deer winter ranges, but there has been only limited success to date because (1) the relatively small acreage under AMP's, (2) many AMP's are only partially implemented, and (3) most problem areas are not under AMP's. More ranges continue to decline from excessive livestock use than are being improved. Extensive rehabilitation programs will be required to assist livestock management for large scale improvement over extensive areas on the State.

The accelerated development of pinyon-juniper stands occurred partly as the result of excessive livestock and deer grazing which gradually removed the valuable herbs and shrubs. Some of this forage loss resulted from invasion by trees from outside the areas they origin-

ally occupied; but a great deal also resulted from the increased number of trees within the original boundaries of this plant community. Pinyon-juniper stands are characterized by frequent, barren openings. These give rise to immediate runoff and erosion during high-intensity summer storms. Surface soil in these openings is permeated by millions of tree rootlets that efficiently take up the moisture and nutrients and quite effectively prevent establishment of shrubs and herbs. Removal of the juniper and pinyon is necessary for successful reestablishment of the more desirable herb and shrub species.

Habitat for upland birds and animals is only slightly more satisfactory than that for big game. Important habitat for sage grouse and other small game birds and animals such as meadow areas, water sources, and riparian vegetation have been inadequately protected against excessive use by livestock and lost much of their value. All such areas are also preferred by livestock and must be rested or fenced to protect them from overuse.

Vegetation along streams and around lakes and reservoirs has continued to decline over the years because of uncontrolled livestock grazing and virtually unlimited access to the water by stock. As a result, cover and food, which would be produced by this vegetation for a wide variety of birds and animals, including fish and waterfowl, have largely been eliminated. Table No. 12 identifies the present trend of wildlife habitat conditions.

Table No. 12

Wildlife Habitat Trend

A. Big Game

	Acres	Percent
Improving	1,660,000	10
Static	9,960,000	60
Declining	4,980,000	30
Total	16,600,000	100

B. Upland Birds & Rabbits

	Acres	Percent
Improving	5,280,000	30
Static	10,560,000	60
Declining	1,760,000	10
Total	17,600,000	100

4. Trend Comparisons to Non-BLM Ownerships

No data was collected from other land-management agencies or private ownerships on range condition trends.

III. PROJECTED RESOURCE CONDITION AT CURRENT MANAGEMENT LEVELS

At present funding and manpower levels, AMP development is estimated to reach 370 plans on 10 million acres by 1990. This estimate is predicated on developing an additional 203 plans beginning in FY 1977 after remaining necessary supportive measures have been completed for the 167 implemented plans. At the current rate of AMP development, the program would be 46% complete in 1990. In 2000 the program would only be 67% complete. See Table No. 13.

Table No. 13

Projected AMP Completion at Current Management Levels

	1975	1990	2000
No. completed AMPs	167	370	540
Acres (NRL only - Millions)	5.17	10.0	14.5

Projections were based on funds and manpower allocations received in FY 1975 for the Range Management (1220), Soil and Watershed (1260), and Range Improvement (8100) activities.

Land treatment practices are included in the average cost of AMP development but will be completed only when range conditions cannot be restored within a reasonable time frame (ten years).

An estimated 1,110,000 acres of land treatment will be needed to complete the AMP program. A summary of the practices needed are as follows:

Land Treatment Practice	Acres
Chemical plant control	50,000
Plowing and Seeding	75,000
Pinyon-juniper and brush chaining	475,000
Seeding	500,000
Control Burning	10,000
	1,110,000

The above-described land treatment practices anticipated upon completion of the AMP program do not represent total opportunities available. An estimated 2.5 million acres of deteriorated rangeland are suitable for land treatment on which forage production could be increased approximately 400,000 AUM's. These opportunities are gross figures and do not represent net opportunities attainable after applying proper land-use planning restraints.

Needed range facilitating projects include:

Water Developments	No.'s	Unit
Springs	400	(Ea.)
Wells	270	(Ea.)
Reservoirs	2500	(Ea.)
Pipelines	700	(Mile)
Fencing	6875	(Mile)

At current Management levels, AMPs will be implemented at the rate funds become available to complete necessary projects.

1. Range Condition

Projected range conditions under different management levels are primarily based on rate of AMP development. Estimated range conditions expected under current management levels are shown on Table No. 14.

Table No. 14

Range Condition - Projected (Estimated)

	Excellent	Good	Fair	Poor	Bad
% of Rangeland Now		5	51	36	8
% will be in 1990	1	24	38	30	7
% will be in 2000	4	42	28	20	6

2. Erosion Conditions

Table No. 15 shows expected changes in erosion condition at current management levels. Projections were based on analysis of Phase I watershed erosion condition data and improvement of range conditions expected from rate of AMP development. Critical and severe erosion conditions will be reduced by 1,380,000 acres in year 2000 under the current management level.

Table No. 15

Projected Resource Condition at Current Management Level

	Stable	Slight	Moderate	Critical	Severe
% Erosion Now	5	41	36	17	1
% 1990	2	56	28	13	1
% 2000	2	59	28	11	0

3. Wildlife Habitat

Improvement in wildlife habitat is expected to be fully realized within 10 years after AMPs are fully implemented. Optimum wildlife habitat acreages were estimated on the basis of improvement that could be accomplished through manipulation of livestock grazing. Habitat improvement was estimated as a percent of total program accomplishment after AMPs have improved range conditions. Table No. 16 summarizes wildlife habitat improvement that can be accomplished at current management levels.

Table No. 16

Projected Habitat Conditions

at Current Management Levels

	Unsatisfactory
Big Game Habitat	
Now	80
1990	56
2000	46
Stream Fish Habitat	
Now	69
1990	51
2000	37
Lake Fish Habitat	
Now	35
1990	27
2000	19
Upland Birds & Rabbits Habitat	
Now	70
1990	57
2000	43

4. Resource Productions

Increases in forage production and improvement in wildlife habitat are expected to be realized within 10 years after AMPs are fully implemented. Production increases for the current management level were estimated on the basis of percent of total program accomplishment after AMPs have improved range conditions.

Livestock forage production estimates are based on a 43% increase in range condition improvement through management and completion of necessary land treatment practices.[8] Forage reservations will be made for wildlife, wild horses and burros and watershed protection before forage is allocated for livestock grazing.

All wildlife population figures are estimates only and have been derived in consultation with the State Division of Wildlife Resources. The policy of the State Division of Wildlife Resources, as well as the Bureau of Land Management and U. S. Forest Service, is to manage wildlife based on the carrying capacity of the ranges. Because of the secretive nature of animals and the vast area involved, it is impossible to count most kinds of animals. The State Wildlife Agency is especially reluctant to make number estimates of animals because there is little valid information on which to base such estimates. These estimates have been the source of bad publicity in past years when some citizens have used the figures to prove or disprove their particular philosophies of wildlife management. Obviously, such estimates cannot be confirmed, and the figures should not be distributed to the public as true figures, but

only best estimates based largely on past harvest trends and herd production. Estimates of future populations of big game and upland game species are also strictly conjecture but have some basis in higher populations that existed in the late 1940s and early 1950s. Assuming that the present figure is reasonably accurate, then the projected population figures could likely be attained with intensive range rehabilitation and livestock management.

Wild horse and burro populations could have a significant impact on projected wildlife numbers. A few wild horse areas support significant populations of deer and antelop. Most areas are important for small game habitat. Uncontrolled wild horse and burro populations could adversely impact existing habitat and subsequently reduce wildlife numbers. More important, uncontrolled wildhorse and burro populations could expand onto other important wildlife areas and cause additional conflict.

Public Law 92-195 provided that wild horses will be managed in a manner that will not adversely affect other resource uses and values. It will not be possible to comply with the requirements of the law with present appropriations received for the wild horse and burro program. A total of $58,500 was allocated for wild horse and burro management this fiscal year. This amount is not sufficient since gathering facilities (corrals, traps, etc.) needed to initiate a control program will cost $50,000 alone. Average gathering costs presently exceed $500 per animal. Efforts to control populations will be minimal at this funding level and would be directed towards solving priority conflicts, wildlife, etc.

Assuming that destroying excess animals will continue to be an unacceptable alternative to the public, annual population increases are estimated to average 15% until productivity rates decline because of deteriorating range conditions or other factors. At this rate of expansion wild horse and burro populations would utilize increased forage production developed from AMP's and/or require additional grazing use adjustments as the only temporary alternative for protecting the forage resource.

The AMP program is expected to increase livestock forage production to 1,550,000 and 1,680,000 AUMs by years 1990 and 2000 years respectively. This increase will be reduced to 1,400,000 and 1,380,000 AUM's for livestock for years 1990 and 2000, respectively, as allocations are made for wild horse and burro population increases.

Table No. 17 illustrates the present status and projected total animal units months (AUMs) of forage for livestock, wild horses and burros, and wildlife numbers expected at current management levels.

Table No. 17

Resource Production at Current Management Levels

1. Livestock

AUMs Present	AUMs 1990	AUMS 2000
1,400,000	1,400,000	1,380,000

2. Wildlife

	Nos Present	Nos 1990	Nos 2000
Deer	176,000	245,000	275,000
Antelope	2,700	4,800	6,600
Elk	1,100	1,900	2,500
Bignorn Sheep	400	500	600
Buffalo	120	300	500
Upland Birds	2,500,000	2,600,000	2,700,000
Rabbits	1,000,000	1,050,000	1,100,000

3. Wild horses and burros

	Population			AUMs		
	Present	1990	2000	Present	1990	2000
Horses	1,400	12,000	24,000	0	144,000	288,000
Burros	44	400	1,000	0	4,800	12,000

5. Economics

Cash receipts by Utah farmers for agricultural products sold in 1972 totaled 329.4 million dollars. Livestock and livestock products accounts for 269.7 million dollars or 81.9 percent of the total. It is estimated that 10 percent of livestock cash receipts can be attributed to grazing on NRL. Personal income attributed to NRL AUMs amounted to 2.4 million dollars (.08 percent of the State's total personal income). Income generated on BLM rangeland is very important to individual ranchers in Utah; in many cases, their grazing permits are the deciding factor in having a viable operation. Appendix Nos. 6 and 7, compare the importance of livestock grazing on NRLs to Utah farms [2]. Since winter feed is a critical factor of expanding individual livestock operations and determines whether they are viable economic units. Table No. 18 shows the dependency of livestock operators on BLM rangeland.

Table No. 18

Importance of Livestock Grazing on NRLs

	Less than 25% Dependent	20-50% Dependent	50-75% Dependent	More than 75% Dependent
No. Livestock 1/ Operations	694	482	376	458
No. AUMs involved	79,500	203,100	391,200	724,600

1/ Includes regualr licenses and permits only.

The economic value of NRL forage for wildlife and aesthetics is impossible to quantify because of intangible values. Over one million hunter days take place on NRL annually in Utah. Assuming expenditure for an average hunter-day is six dollars, hunting has a gross measureable dollar value of over 6 million dollars per year.

IV. ALTERNATIVE MANAGEMENT OPPORTUNITIES

A. Alternatives

1. Optimum Management Level

Completion of an additional 641 AMPs on 16,646,000 acres would be required. Objective is to stop the declining trend and improve range conditions to good or better by the year 2000. The accelerated program will improve watershed protection, improve wildlife habitat and increase forage for livestock and wild horses and burros. Wild horses and burros would be controlled and managed.

2. Intermediate Management Level

An additional 641 AMPs would still be required on 16,646,000 acres. Obective would be to complete AMP's at a rate necessary to stop declining trends in range, watershed, and wildlife habitat conditions by 1990. Total improvement in range conditions to good or better would not be accomplished until 2010. This program would also yield improvement in watershed and wildlife habitat conditions and increased forage production, but at a slower rate than the optimum program. Wild horses and burros would also be controlled and managed. Table No. 19 compares the rate of AMP development under each management level.

Table No. 19

Projected AMP Completion

	Year		
	1975	1990	2000
Current Management Level	(167) 5.17	(370) 10.0	(540) 14.5
Intermediate Management Level	(167) 5.17	(550) 15.1	(808) 21.8
Optimum Management Level	(167) 5.17	(808) 21.8	

(No. AMPs) Millions of acres

B. Resource Conditions

1. Range Conditions

a. Optimum Management Level

Range conditions would be improved to good or better by 2000 on areas with adequate soil and densities of desirable plant species, and where land treatment practices are complete. Range improvement cannot be expected on areas where these criteria are lacking or where opportunities for treatment practices cannot be completed.

b. Intermediate Management Level

Range conditions would also improve, under the same provisions, but at a slower rate. Downward trends in range conditions would be stopped before 2000 and range conditions improved to good or better by 2010.

Table No. 20 projects the difference in the rate of improvement for each Management Level.

Table No. 20

Projected Range Conditions for
Different Management Levels (in %)

Management Level	Excellent	Good	Fair	Poor	Bad
1990					
Current	1	24	38	30	7
Intermediate	3	36	35	20	6
Optimum	5	50	25	15	5
2000					
Current	4	42	28	20	6
Intermediate	7	53	20	15	5
Optimum	10	76	-	10	4

2. Erosion Condition

Completion of AMP's and 1,110.000 acres of vegetative manipulation practices by 1990 under the optimum level would reduce critical watershed conditions by 1,184,000 acres. The largest improvement would be made in the slight condition class which would increase by 2,565,000 acres. Total improvement in erosion conditions would not be realized until year 2000 when AMP's would accomplish improved range conditions. Table No. 21 projects expected erosion conditions from the two management levels.

TABLE NO. 21

Projected Erosion Condition by %

State Total Acres	Erosion Condition Class	Intermediate Management Level Year 1990	Intermediate Management Level Year 2000	Optimum Management Level Year 1990	Optimum Management Level Year 2000
19,729,000	Stable	3	3	2	2
	Slight	65	67	70	72
	Moderate	24	23	22	21
	Critical	8	7	6	5
	Severe	0	0	0	0

3. Wildlife Habitat

Wildlife habitat conditions will be restored, maintained and enhanced under both alternatives but at a different rate of improvement. However, total improvement of all habitat is not possible because a substantial acreage cannot be rehabilitated through any management or land treatment practices, since the potential does not exist.

The rate of improvement in habitat conditions for both management levels is shown on Table No. 22.

4. Resource Production

Increases in resource production for both alternatives are summarized on Table No. 23. Increases in forage production for wild horses and burros were not predicted beyond present population requirements.

TABLE NO. 22

Projected Wildlife Habitat Conditions
for each Management Level

	Percent unsatisfactory at each mgt. level		
Big Game Habitat	Current	Intermed.	Optimum
Now	80	80	80
1990	56	52	44
2000	46	39	25
Stream Fish Habitat			
Now	69	69	69
1990	51	47	36
2000	37	33	10
Lake Fish Habitat			
Now	35	35	35
1990	27	26	22
2000	19	18	10
Uplans Birds & Rabbits Habitat			
Now	70	70	70
1990	57	53	44
2000	43	37	20

Table No. 23

Increases in Resource Production

Livestock

Management Levels	AUMs Present	1990	2000
Present	1,400,000	1,400,000	1,380,000
Intermediate	1,400,000	1,620,000	1,810,000
Optimum	1,400,000	1,733,000	2,000,000

Wildlife

a. Current management level

	Present	1990	2000
Deer	176,000	245,000	275,000
Antelope	2,700	4,800	6,600
Elk	1,100	1,900	2,500
Bighorn Sheep	400	500	600
Buffalo	120	300	500
Upland Birds	2,500,000	2,600,000	2,700,000
Rabbits	1,000,000	1,050,000	1,100,000

b. Intermediate Management Level

	Present	1990	2000
Deer	176,000	240,000	290,000
Antelope	2,700	5,800	8,500
Elk	1,100	2,200	3,200
Bighorn Sheep	400	550	650
Buffalo	120	370	580
Upland Birds	2,500,000	2,700,000	2,800,000
Rabbits	1,000,000	1,070,000	1,140,000

c. Optimum Management Level

	Present	1990	2000
Deer	176,000	272,000	350,000
Antelope	2,700	7,700	11,200
Elk	1,100	2,800	4,200
Bighorn Sheep	400	600	800
Buffalo	120	400	800*
Upland Birds	2,500,000	2,800,000	3,000,000
Rabbits	1,000,000	1,100,000	1,200,000

Table No. 23 cont'd

* To accommodate this number of Buffalo would require appropriate decreases in livestock because of limited habitat.

Wild Horses and Burros

Management Levels	Population Present	Population 1990	Population 2000	AUMs Present	AUMs 1990	AUMs 2000
Present						
Horses	1,400	12,000	24,000	0	144,000	288,000
Burros	44	400	1,000	0	4,800	12,000
Intermediate						
Horses	1,400	1,400	1,400	0	16,800	18,500
Burros	44	50	50	0	600	750
Optimum						
Horses	1,400	1,400	1,400	0	18,500	18,500
Burros	44	50	50	0	750	750

Projected Erosion Condition by % for Different Management Levels

State total acres - 19,729,000

Erosion Condition Class	Management Levels: Current 1990	Current 2000	Intermediate 1990	Intermediate 2000	Optimum 1990	Optimum 2000
Stable	2	2	3	3	2	2
Slight	56	59	65	67	70	72
Moderate	28	28	24	23	22	21
Critical	13	11	8	7	6	5
Severe	1	0	0	0	0	0

5. Costs

Cost of implementation and maintenance of AMP's was based on an estimate of requirements to accomplish objectives for optimum and intermediate management levels. Operation and maintenance costs do not include custodial management or general administration costs. Additional costs for management and control of wild horses and burros, including construction of necessary gathering facilities, are also identified below.

Optimum

Total AMP Implementation Costs $26,400,000

AMP Operation/Supervision/Maintenance Costs 2,600,000 per year

Intermediate

Total AMP Implementation Costs $20,100,000

AMP Operation/Supervision/Maintenance Costs 2,100,000 per year

Wild Horse and Burro

Total Cost Required for both Management Levels $2,800,000

6. Economics

The gross dollar value of the alternative management levels are shown in Table No. 30. The value of an AUM was determined to be $10.00 (10) to the local community and a 2.7 multiplier (obtained from the University of Utah Input-Output Model) was used to determine gross value to the State.

The relative importance of the livestock industry in Utah will decrease in the future. Beef production will increase, but manufacturing and other sectors of the economy will increase more rapidly. However, livestock production will remain the major industry in many small communities and NRL forage will retain a major role in many ranching operations

Table No. 30
Livestock Forage Value
Gross Dollar Value (Millions)

Management Program	1974		1990		2000	
	Local	State	Local	State	Local	State
Present Level	14	37.8	15.5	41.9	16.8	45.4
Intermediate level	14	37.8	16.2	43.7	17.3	45.71
Optimum Level	14	37.8	18.1	48.9	20.0	54.0

The development of the optimum alternative will result in investment of 26.4 million dollars - (Development Costs) by 1990. This expenditure will have significant impact on the local and State economy. A major part of the investment will be for in-State wages and purchase of goods and services. New employment will be created and additional income. The primary economic impact will be in rural areas of the State which have characteristically had high unemployment and low Per Capita and family income.

V RECOMMENDATIONS

Selection of the optimum management alternatives is recommended to fully implement the AMP program for the following reasons:

1. Range condition improvement would be completed 10 years earlier than scheduled under the intermediate program and 20 years sooner than current management allows. Watershed improvement would also accelerate, saving important soil resources and improving water quality.

2. The optimum program would produce benefits which would recurr annually for at least a ten year period before the intermediate program would begin producing the same benefits. The benefits received during the ten year period would include:

- Range improvement to a good or better condition - 5.1 mil. acres
- Watershed conditions improved to a stable or slight erosion condition class - .8 mil. acres
- Improved big game habitat - 2.3 mil. acres
- Improved small game habitat - 3.0 mil. acres

- Increase in big game numbers	- 64,000 animals per year
- Increased forage production for livestock	-190,000 AUM's per year

If all these benefits were assigned values, the total value received would exceed the differences in cost ($6.3 million) between the optimum and intermediate management levels.

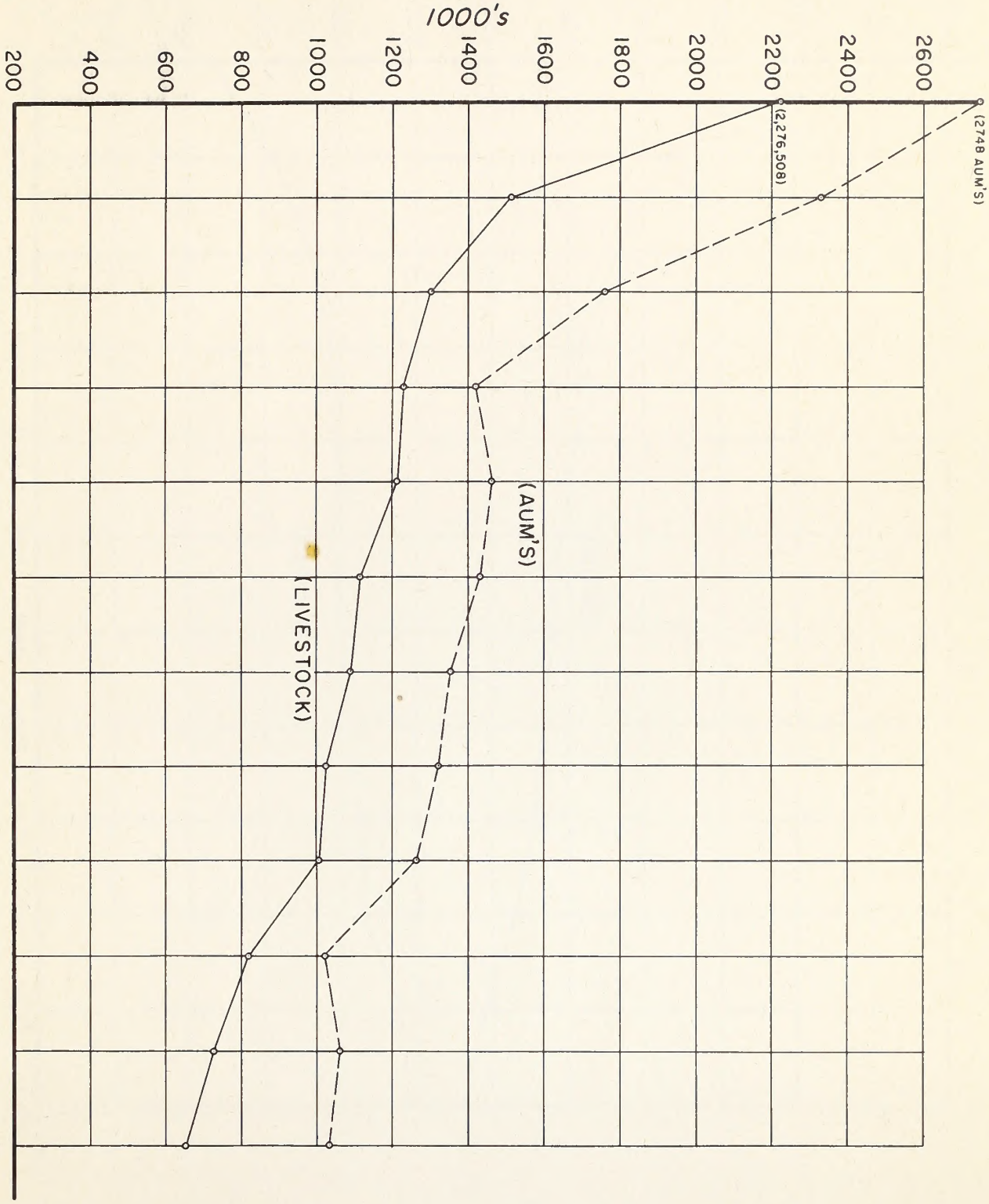
3. The optimum program would increase consumable red meat production in Utah by 29,250,000 pounds annually* by the year 2000. This is an increase of over 9,260,000 lbs over intermediate program and 15,600,000 lbs over the current program. This production would assist in meeting the nation's need for red meat, the world food situation and energy conservation requirements. As more of our grain production is used for human consumption, less will become available for livestock production. The current practice of finishing livestock with feed grain places high demands on fossil fuels. (planting, harvesting, shipping, feeding, etc.) Production of range forage will become increasingly important as it requires little energy from fossil fuels and the energy-converting processes from forage to red meat is non-polluting.

4. Implementation of the optimum program would introduce additional monies into the rural and State economies.

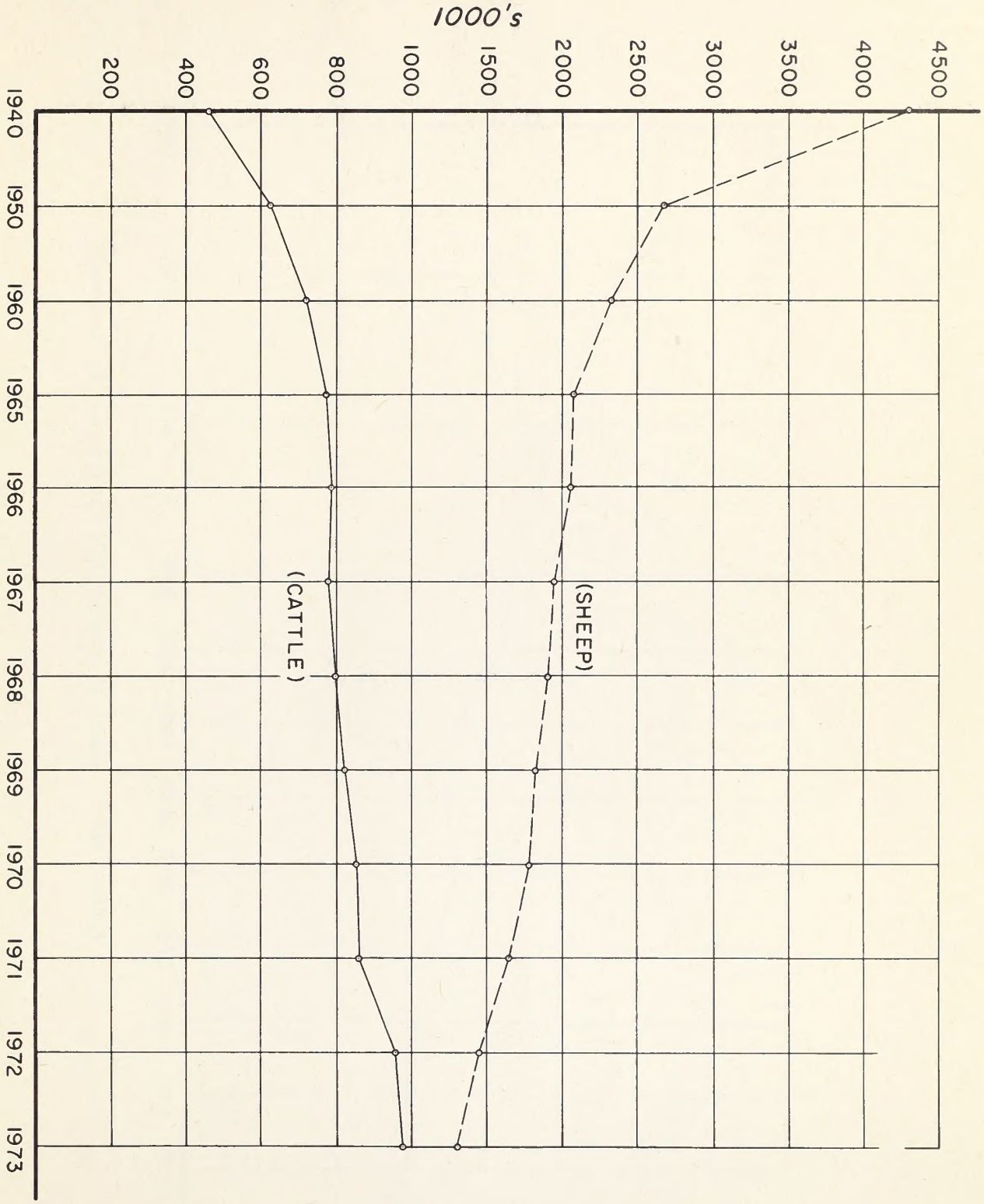
5. Wildlife habitat and aesthetics would be improved sooner, thereby increasing the value of the State's recreational resources.

* The average grazing season on NRL in Utah is six months. Therefore, the additional 600,000 AUMs of forage produced will produce an additional 100,000 cattle (or 500,000 sheep) from the livestock industry (600,000 6 = 100,000). If livestock operations running an additional 100,000 cattle average an 80% calf crop and if an average 15% of breeding cows were replaced annually, feeder calf production would increase by .65 animal units per AUM (100,000 X 80% = 80,000, - 15,000 (15%) 1 = 65,000). Therefore, an additional 65,000 animals with an average 600 lb wholesale carcus weight would produce 450 pounds of table meat or a total of 29,250,000 pounds. (65,000 X 450 = 29,250,000).

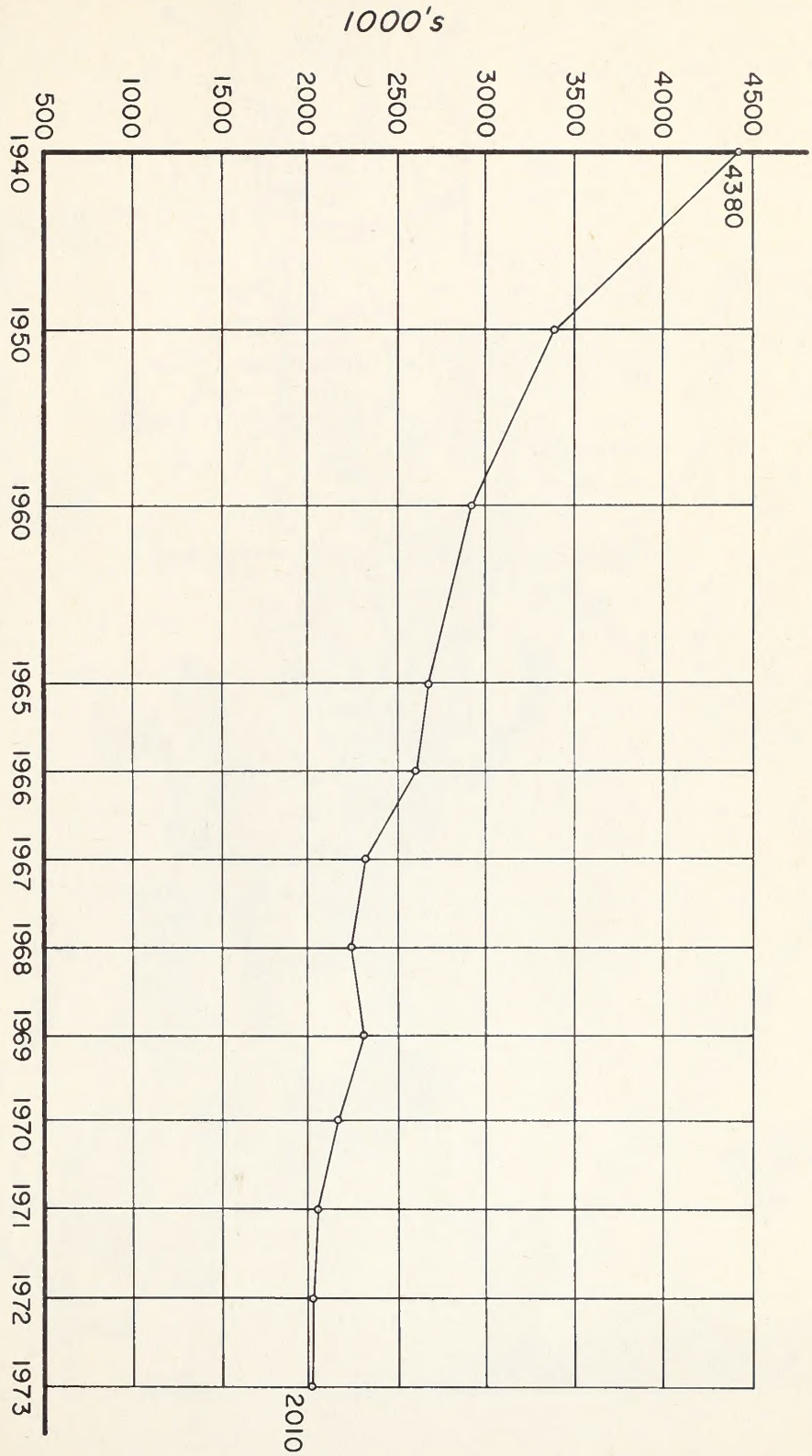
APPENDIX NO. 1



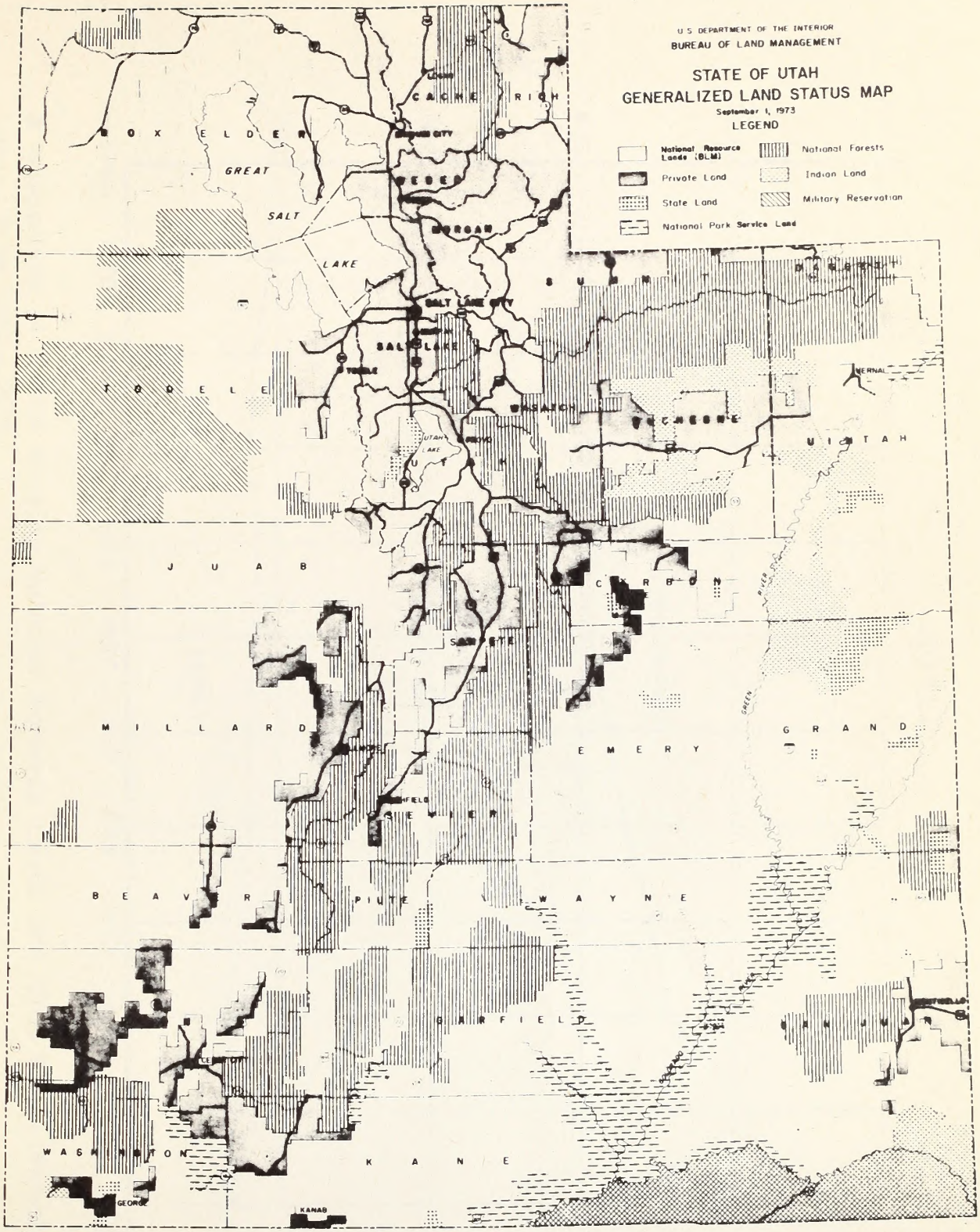
Number of Permitted Livestock and AUM's on National Resource Lands 1940-1973.

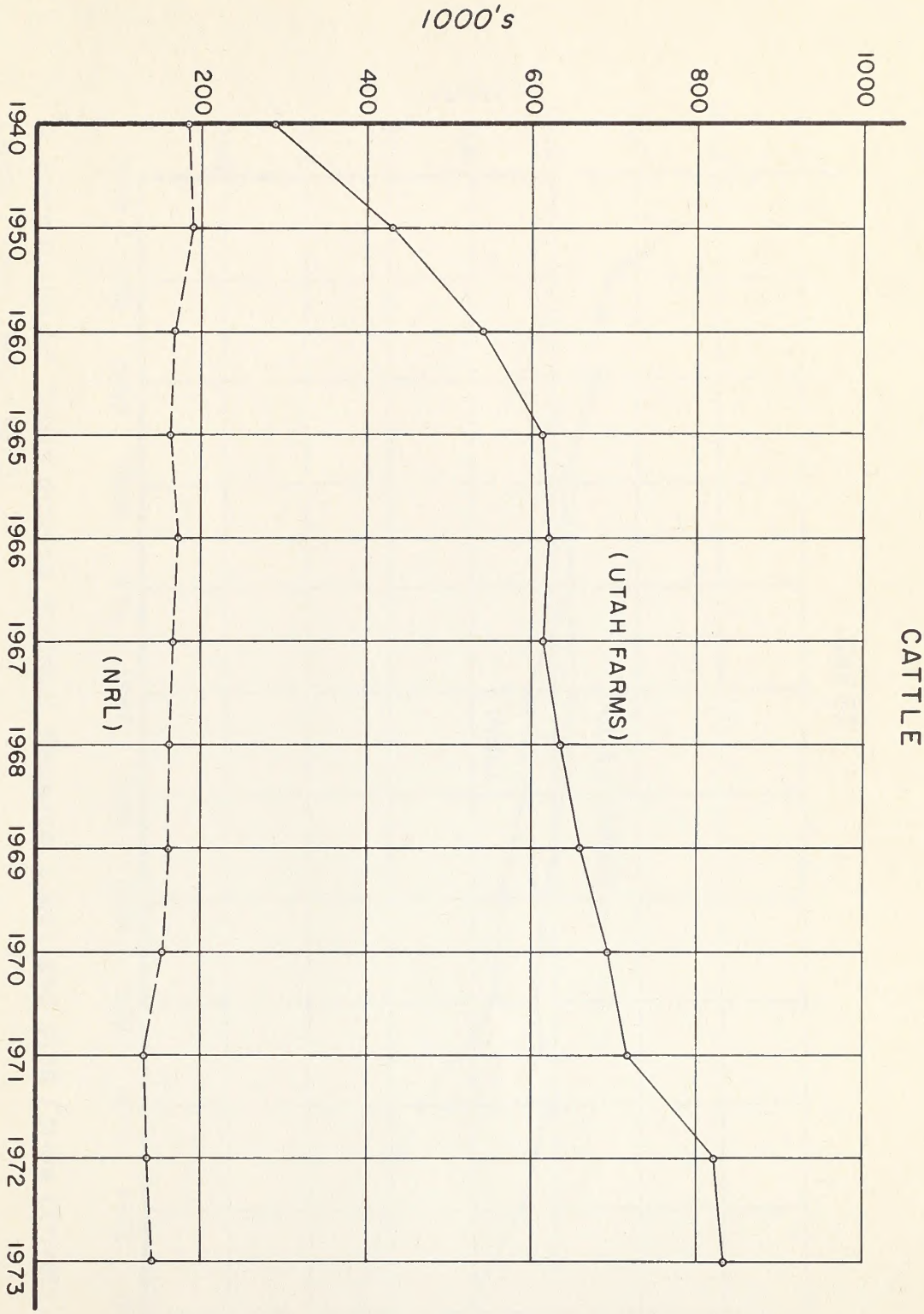


Total numbers of Cattle and Sheep in Utah. From 1940 to 1973.



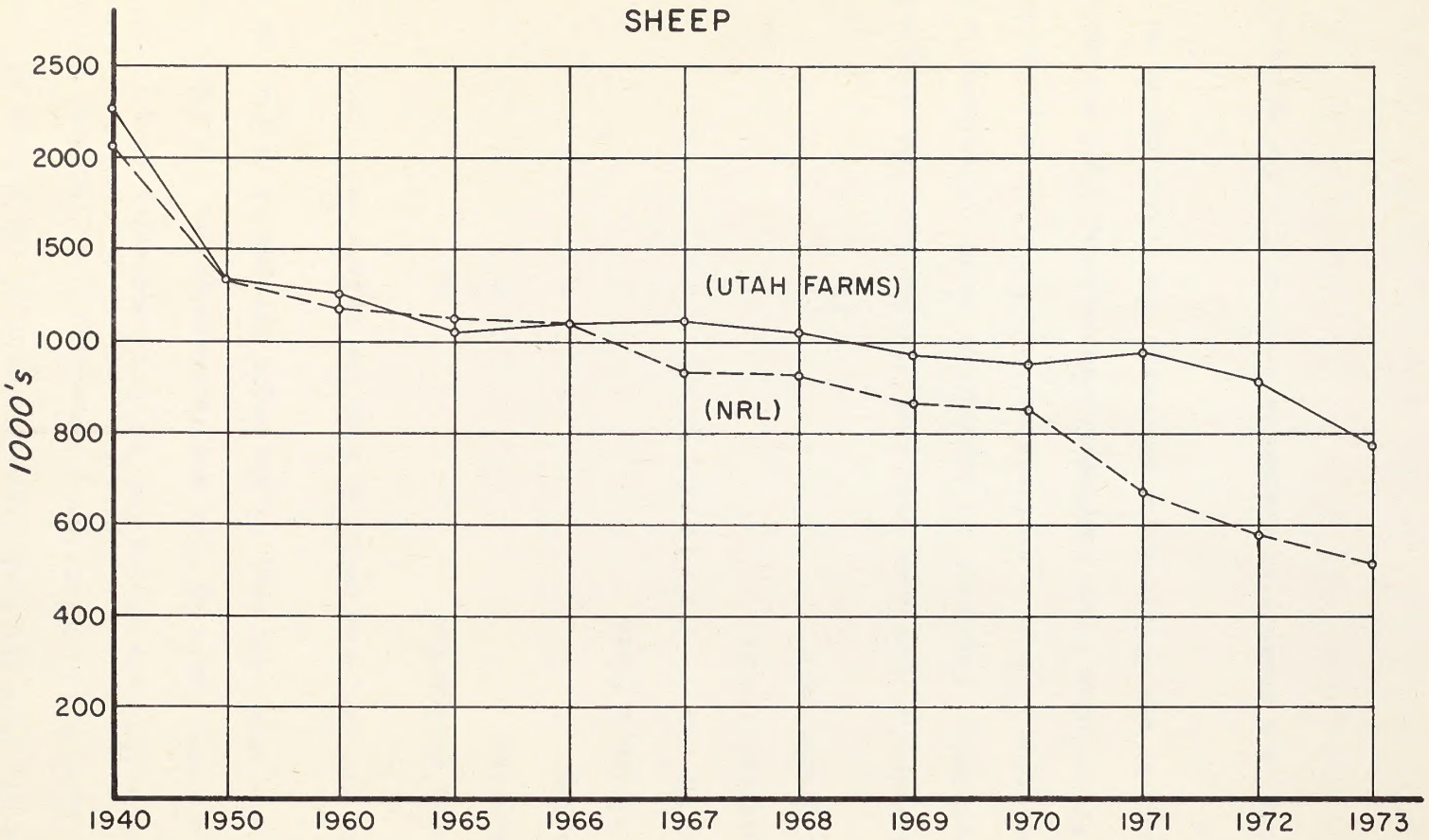
Number of Livestock Operators in Utah 1940 - 1973.


U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
STATE OF UTAH
GENERALIZED LAND STATUS MAP
September 1, 1973
LEGEND
National Resource Lands (BLM)
Private Land
State Land
National Park Service Land
National Forests
Indian Land
Military Reservation
BOX ELDER
CACHE
RICH
GREAT
SALT
LAKE
WEBER
MORGAN
SUMMIT
DAGGETT
SALT LAKE CITY
SALT LAKE
TOOELE
WASATCH
DUCHESNE
UINTAH
UTAH LAKE
UTAH
JUAB
CARBON
SANPETE
MILLARD
EMERY
GRAND
SEVIER
BEAVER
PIUTE
WAYNE
GARFIELD
WASHINGTON
KANE
GEORGE
KANAB



A comparison of Cattle Grazing National Resource Lands and Utah Farms (Private Lands) from 1940 - 1973.

APPENDIX NO. 6



A comparison of Sheep grazing National Resource Lands and Utah Farms (Private Lands) from 1940 - 1973.

Analysis of Public Participation

On October 17, 1974 the Utah State Director of the Bureau of Land Management sent letters to 150 different organizations, interest groups and interested individuals asking for opinion concerning range conditions on national resource lands in Utah and recommendations for improvement. News releases were also sent to the major newspapers across the state.

Forty-three replies were received from the following: (copies attached)

Congressional delegation	1
Federal agencies	8
State agencies	6
BLM State Advisory Board	8
Environment groups	4
Special interest groups	7
Interested individuals	13
	43

Replies to specific questions were then divided into two categories for analysis purposes. Category (A) identifies those respondents having a close association with or a professional knowledge of range conditions; Category (B) includes those respondents whose background was unknown. In many cases it was difficult to determine the qualification of certain respondents.

The following is a summary of responses received for the six questions asked:

Question No. one

What is your assessment of range conditions on BLM managed land in Utah?

Reply	Category (A)	Category (B)
Range conditions are fair to good	7	0
Range conditions are poor	14	6
Range conditions are improving	7	2
Range conditions are declining	0	0
Range conditions need improving	2	6
No comment	1	7

Question No. 2

What are the consequences of these present conditions to your interests (wildlife, conservation, grazing, etc.)?

Present Condition:	Category (A)	(B)
Benefit grazing	6	0
Adverse to grazing	10	2
Benefits wildlife	4	3
Adverse to wildlife	11	1
Benefits all resources	1	0
Adverse to all resources	8	2
No consequence	0	1
No comment	3	5

Question No. 3 Please identify specific ranges on which conditions can be improved.

	Category (A)	(B)
Range conditons need improvement		
Statewide	8	5
Northeastern Utah	1	0
Southern Utah	2	2
Southeastern Utah	4	1
Southwestern Utah	6	0
On sagebrush ranges	2	0
Pinion juniper ranges	3	0
Big Game ranges	1	0
No comments	6	6

Question No. Four What are your recommendations for improvement in line of multiple use considerations?

	Category (A)	(B)
Favor land treatment	19	5
No development until primitive areas established	2	1
Provide for ORV use	1	1
Restrict ORV use	3	1
Consider wildlife & aesthetics & Recreation before land treatment	0	3
Increase intensive livestock Mgt.	8	1
No grazing in some areas	1	1
Increase predator control	2	1
Restrict predator control	0	1
No comment	11	3

Question No. five In your opinion, what multiple use priorities should we consider in our range management program?

	Category (A)	(B)
Grazing	18	4
Watershed	11	0
Wildlife	8	2
Recreation	6	2
Mining	2	2
Energy	2	0
ORV Use	0	1
Timber production	1	1
Predator control	1	0
All uses important	9	2
No comment	0	4

Question No. Six If your recommendations could be implemented, what benefits will accrue to your groups or interests?

	Category (A)	(B)
More forage for livestock	8	0
More forage for wildlife	6	0
Improved watershed	3	0
Protect scenic & recreation values	0	1
Improved economy	3	4
No benefits	2	0
No comments	2	3

Category	(A)	(B)
Other comments		
Need more awareness of BLM programs	1	
Improve access to national resource lands		1
Establish educational program on range mgt.	1	
Assure ranchers more benefits for cooperating		1
BLM needs more funds	1	

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GLOSSARY OF WORDS AND PHRASES
Utah Range Condition Report

Adjustments in Numbers - Change (increase or decrease) of livestock numbers to conform to the amount of forage produced in an area, considering other multiple uses.

Allotment - An area of land where one or more individuals graze their livestock. It generally consists of national resource lands but may include parcels of private or State owned lands. The number of livestock and season of use are stipulated for each allotment. An allotment may consist of several pastures or be only one pasture.

Allotment Management Plan (AMP) - A concisely written program of livestock grazing management, including supportive measures, if required, designed to attain specific management goals in a grazing allotment.

Animal Unit Month (AUM) - The amount of forage required to sustain the equivalent of one cow of five sheep for 1 month.

Browse - As a verb, to consume, or feed or eat on (a plant); as a noun, the tender shoots, twigs, and leaves of trees and shrubs often used as food by cattle, deer, elk, and other animals.

Class of Livestock - Kinds of domestic livestock grazing on a range--cattle, horses, sheep or goats, or a combination of these. May be broken down to greater detail such as cows with calves, yearlings, steers, ewes, ewes with lambs, lambs, etc.

Critical Wildlife Habitat - That portion of the living area of a wildlife species that is essential to the survival and perpetuation of the species either as individuals or as a population.

Custodial Management - Minor degree of management effort applied to regulating livestock use on a rnage area. Generally custodial management involves those situations where the public land is a small part of the total grazing area and/or other resource values are limited.

Distribution - The uniformity of livestock grazing use over a range area. It is affected by water availability, topography and type, and palatability of vegetative species.

Environment - The surrounding conditions, influences, or forces that affect or modify an organism or an ecological community and ultimately determine its form and survival.

Erosion Condition Class (ECC) - Indicates the present erosion activity under existing management, cover, and climate.

Forage - Vegetative material produced by plants and used as food by animals.

Frail Lands - Some areas which exhibit low productivity and stability. Surface disturbance readily accelerates erosion of these areas.

Grazing Capacity - The total animal unit months (AUM's) of forage available from an area or areas of forage land during a given period.

Grazing System - A specific sequence of livestock grazing by designated area to accomplish management objectives.

Habitat - Food, cover, water, and space used by animals during their life cycle.

Intensive Management - Relative high degree of livestock supervision to meet the multiple-use objectives and constraints on grazing established through the Bureau's planning process. Generally, intensive management is applied through a grazing system established in an allotment management plan.

Interim Management - Generally, the livestock use supervision will remain at the existing level (less than intensive) on an interim basis until the resource planning can be completed and the area designated for either intensive or custodial management efforts.

License - An authorization which permits the grazing of a specified number and class of livestock on a designated area of grazing district lands for a period of time, usually not in excess of one year.

Livestock Operation - The management of an area of land so that a significant portion of the income is derived from the continuing production of livestock.

Management Action - A supervisory decision affecting the manner and method of use of the resources of a land area.

Multiple Use - Harmonious and coordinated management of the various surface and subsurface resources, without impairment of the land, that will best meet the present and future needs of the people.

National Resources Lands (NRL's) - Public lands administered by the Bureau of Land Management.

Nonuse - Is the temporary waiver, usually one grazing season, of grazing use on public lands at the request of the rancher and approved by the BLM.

Off-Road Vehicle (ORV) - Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other terrain.

Overgrazing - Consumption of vegetation by herbivores beyond the endurance of a plant to survive.

Permit - An authorization which allows the grazing of a specified number and class of livestock on a designated area of grazing district lands during specified seasons each year for a period of usually 10 years.

Productive Potential - Represents a practical increase in production resulting from management and rehabilitation efforts.

Range Adjudication - The determination of the qualifications for grazing privileges of the base properties, land, or water offered in support of applications for grazing licenses or permits in a range unit or area, and the subsequent equitable apportionment among the applicants of the forage production within the proper grazing season and capacity of the particular unit or area of Federal range.

Range Condition and Trend - A description of the current status and estimated future improvement or deterioration of the vegetation and soil for a rangeland site.

Range Improvement - A structure, action, or practice that increases forage production, improves watershed and range condition, or facilitates management of the range or the livestock grazing thereon.

Riparian - Living on or adjacent to bank of river, pond, lake.

Rest Rotation Grazing - A grazing system providing for sequential movement of livestock from one pasture to another on the basis of allowing for regrowth of vegetation and maintenance of vegetative vigor.

Supportive Measures - Structures, actions or practices where objectives or justifications are to increase forage production and utilization to improve range conditions, or to facilitate management of the range or the livestock grazing thereon; range improvements.

Utilization - The proportion of current year's forage production that is consumed or destroyed by grazing animals. Usually expressed as percentage. See also Intensity of Use.

Wildlife - Includes all species of mammals, birds, fish, mollusks, crustaceans, amphibians, reptiles, or their progeny or eggs which, whether raised in captivity or not, are normally found in a wild state. Feral horses and burros are excluded.

Wildlife Habitat - All elements of a wild animal's environment which the animal needs to normally and naturally complete its life cycle, i.e., to maintain a healthy life and perpetuate its population through normal reproduction; these elements are usually described as food, cover, water and living space, but included here are all the conditions and items needed to satisfactorily produce the above four elements in the amounts, qualities, and juxtapositions which the animal requires to complete its life cycle.

Wild Horese and Burros - Unbranded, unclaimed horses or burros that use national resource lands.

Form 1279-3
(June 1984)

BORROW

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